

Data supplement to Teasdale et al. Solving a weighty problem: systematic review and meta-analysis of nutrition interventions in severe mental illness. British Journal of Psychiatry. doi: 10.1192/bjp.bp.115.177139

<b>Table DS1</b> Characteristics of included studies											
Trial	Age, years: mean (SD)		Diagnoses	Source from population	Delivered by	Delivery method	Nutrition intervention	Additional components	Control	Outcome(s)	Trial quality <sup>a</sup>
	Active	Control									
Alvarez-Jimenez et al, 2006 [27] N = 61	26 (15.5)	27.5 (8.5)	SCZ, SAD, SCZF, DD, BRP, PNOS	Outpatient	Clinical psychologist, nurse	Individual	Conducted according to set lifestyle manual	Exercise program	Usual care	Wt, BMI	4
Attux et al, 2013 [28] N = 160	36.2 (9.9)	38.3 (10.7)	SCZ spectrum	Outpatient	Nurse, occupational therapist, clinical psychologist, dietitian	Group	Conducted according to set lifestyle manual	Education: physical activity, anxiety and self-esteem management	Usual care	Wt, BMI, WC, BP Lipids, glucose DINE	4
Brar et al, 2005 [29] N = 71	40 (10.1)	40.5 (10.6)	SCZ, SAD	Mixed	Group leader	Group	Conducted according to set lifestyle manual	Education: exercise to burn calories	Usual care + encouraged to lose weight individually	Wt, BMI, WC, WHR	2
Brown & Chan, 2006 [31] N = 17	45.1	41.7	SMI	Outpatient	Key worker	Individual	Conducted according to set lifestyle manual	Education: exercise, daily activity and substance misuse	Usual care + health package post study	Wt, BMI, BP DINE	4
Brown & Smith, 2009 [32] N = 26	50.4	47	Psychosis, MAI, PD	Outpatient	Key worker	Individual	Conducted according to set lifestyle manual	Access to smoking cessation clinic and gym	Usual care + health package post study	Wt, BMI, BP DINE	4
Brown et al, 2011 [30]	44.6 (10.9)		SMI	Outpatient	Nurse,	Individual	Twice daily meal	Exercise	Usual care	Wt	2

N = 89					occupational therapist or dietitian		replacements + education + goal setting	program			
Cordes et al, 2014 [33] N = 25	43.6 (6.9)	39.9 (12.7)	SCZ, SAD	Inpatient	Dietitian	Group	Healthy isocaloric diet education, practical shopping + cooking class	Exercise education module	Usual Care	Wt, BMI, WC BP Fasting lipids, glucose	3
Daumit et al, 2013 [34] N = 291	46.6 (11.5)	44.1 (11)	SMI	Outpatient	Community health educator	Individual + group	Weight management sessions	Group exercise sessions	Usual care + standard nutrition and physical activity information	Wt, BMI, WC BP, lipids Glucose, insulin	4
Evans et al, 2005 [35] N = 34	34.6 (9.6)	33.6 (11.6)	SCZ, SAD, SCZF, BAD, DEP	Mixed	Dietitian	Individual	Best practice dietetic intervention	NA	Usual care + nutrition education booklet	Wt, BMI, WC	1
Forsberg et al, 2010 [36] N = 41	39.8	42.8	SCZ, BAD, PD, other psychotic disorders, autism spectrum	Outpatient	Not specified	Group	Theoretical diet training within practical shopping & cooking sessions	Physical activity sessions; substance use education	Usual care + art group sessions	Psychological outcome measures only	3
Gillhoff et al, 2010 [37] N = 50	48.1 (11.5)	48.9 (12)	BAD	Outpatient	Psychotherapist/psychiatrist, nutrition counsellor, fitness trainer	Group	Nutrition advice & cooking classes	Individual physical activity training; stress & symptom management	Usual care + intervention post study	Wt, BMI, WC, BP Blood lipids, HbA1c	2
Goldberg et al, 2013 [38] N = 109	50.5 (9.9)	53.5 (8.1)	SCZ, SAD, BAD, MDD, PTSD, severe	Outpatient	Research staff	Individual + group	Healthy eating & weight loss education	Exercise education	Usual care + nutrition and exercise information brochures	Wt, Diet	2

			anxiety disorder								
Hjorth et al, 2014 [39] N = 97	M: 48.0 (13.6) F: 47.8 (11.1)	M: 41.5 (12.4) F: 45.0 (17.9)	SMI	Inpatient	Project leader + research nurse	Individual + group	Stage of Change + Motivational Interviewing, focus groups (patients + staff) & education sessions (staff)	Smoking cessation, physical activity encouragement	Usual care + individual sessions post study	Wt, BMI, WC, body fat %, BP Lipids, glucose	2
Iglesias-Garcia et al, 2010 [40] N = 15	Not specified		SCZ	Outpatient	Psychiatric nurse	Group	Structured information given to participants plus group discussion	Exercise/health habits and self-esteem	Usual care with weekly anthropometri c measures	Wt, BMI, WC BP	4
Jean-Baptiste et al, 2007 [41] N = 18	52.4	40.7	SCZ, SAD	Outpatient	Dietitian, psychiatrist	Group	Nutrition education sessions based on national standards, food provision, grocery store visit + cooking demonstration	Physical activity encouraged, pedometers given	Usual care followed by intervention (cross-over design)	Wt, BP Fasting lipids, glucose	2
Kwon et al, 2006 [42] N = 39	32 (9.4)	29.8 (6.1)	SCZ, SAD	Outpatient	Dietitian + exercise coordinator.	Individual	Best practice dietetic intervention	Exercise education + activity diary	Usual care + verbal recommendati ons for physical activity and eating behaviour	Wt, BMI Lipids, glucose	2
Littrell et al, 2003 [43] N = 70	33.7 (9.2)	34.5 (10)	SCZ, SAD	Outpatient	Master's-level clinician (nurse)	Group	Psychoeducation class using set lifestyle manual	Fitness and exercise education module	Usual care	Wt, BMI	2

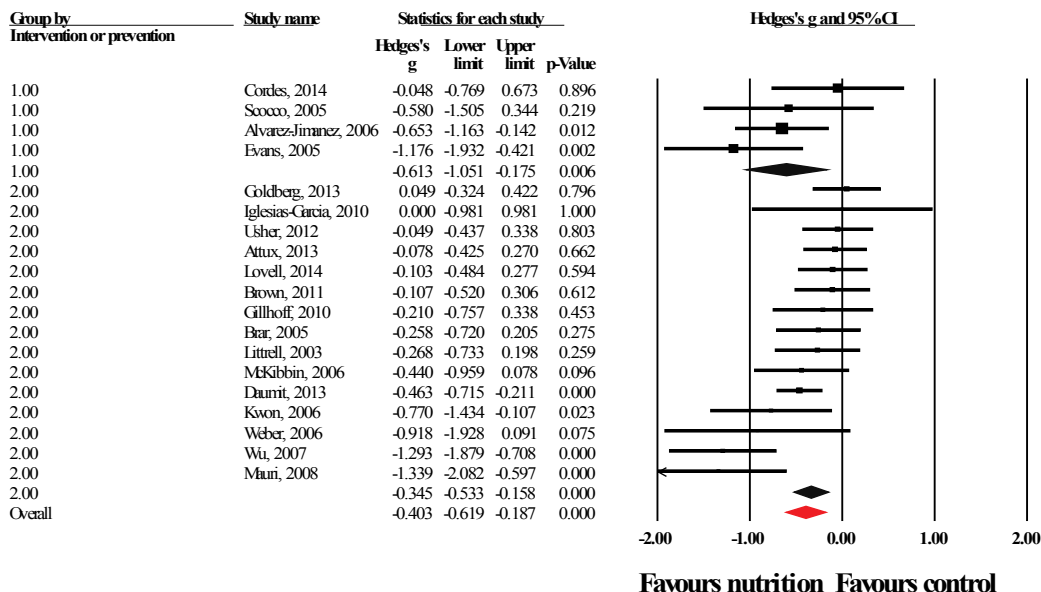
Lovell et al, 2014 [44] N = 105	25.6 (5.5)	25.9 (6)	SCZ, SAD, SCZF, DD, BRP, PNOS, FEP	Outpatient	Support, time and recovery workers	Individual	Psychoeducation plus patient- centred goals + action plan	Optional sports groups	Usual care	Wt, BMI, WC FFQ	4
Mauri et al, 2008 [45] N = 33	38.9		SAD, BAD, Psychotic DEP	Outpatient	Dietitian	Individual	Psychoeducation with individualised diet and food diary	Step counter with aim of reaching 10,000 steps	Usual care followed by intervention post study (cross-over design)	Wt, BMI Lipids, glucose, insulin	2
McCreadie et al, 2005 [46] N =	45 (13)		SCZ	Outpatient	Occupational therapist, case workers	Group (house)	Free fruit + vegetables +/- associated instructions	NA	Usual care	Scottish Health Survey - fruit, vegetables, global assessment of diet + individual nutrients	2
McKibbin et al, 2006 [47] N = 57	53.1 (10.4)	54.8 (8.2)	SCZ	Outpatient	Not specified	Group	Psychoeducation on diabetes, nutrition and lifestyle education	Exercise education with pedometer	Usual care + diabetes education brochures	Wt, BMI, WC, BP Lipids, glucose	2
Milano et al, 2007 [48] N = 36	46	45	SCZ, BAD	Outpatient	Not specified	Individual	Nutrition counselling with specified diet including calorie reduction and nutritional balance	Physical activity program	Usual care with regular diet and no physical activity	Wt, BMI	2
Scocco et al, 2006 [49] N = 17	51.7 (12.4)	39.3 (9.9)	SCZ, SAD	Outpatient	Dietitian	Individual	Education, food diary, energy deficit	Non-structured exercise with tailored advice	Usual care + intervention post study	Wt, BMI	1
Usher et al, 2013 [50] N = 101	Not specified		SCZ, BAD, DEP, Anxiety	Outpatient	Nurse	Group	Nutrition education in accordance with lifestyle booklet	Exercise education plus pedometer	Usual care + healthy lifestyle booklet	Wt, BMI, WC	3

Weber & Wyne, 2006 [51] N = 15	Not specified		SCZ, SAD	Outpatient	Nurse	Group	Cognitive/behavioral lifestyle intervention	Exercise education plus activity diary	Usual care	Wt, BMI, WHR, glucose	3
Wu et al, 2007 [52] N = 53	42.2 (7.5)	39 (6.7)	SCZ	Inpatient	Dietitian	Individual	Dietary plan with caloric restriction and nutritional balance	Exercise program	Usual care	Wt, BMI, WC, WHR, body fat % Lipids, glucose, insulin	2
<p>SCZ = Schizophrenia, SAD = Schizoaffective disorder, SCZF = Schizophreniform disorder, BAD = Bipolar affective disorder, DD = Delusional disorder, BRP = Brief reactive psychosis, PNOS = Psychosis not otherwise specified, MAI = Major affective illness, PD = Personality disorder, SMI = Severe mental illness, MDD = Major depression disorder, DEP = Depression, FEP = First-episode psychosis, PTSD = Post traumatic Syndrome Disorder, Wt = Weight, BMI = Body mass index, WC = Waist circumference, WHR = Waist-to-hip ratio, BP = Blood pressure, FFQ = Food Frequency Questionnaire, DINE = Dietary Instrument for Nutrition Education, HbA1c = Glycated haemoglobin.</p> <p>a. Criteria used for trial quality scores included (i) concealed allocation, (ii) assessor blinding, (iii) group treatment equality, and (iv) all participants accounted for. Individual scoring for each trial is available in Table DS2.</p>											

**Table DS2** Methodological quality of included trials for primary systematic review

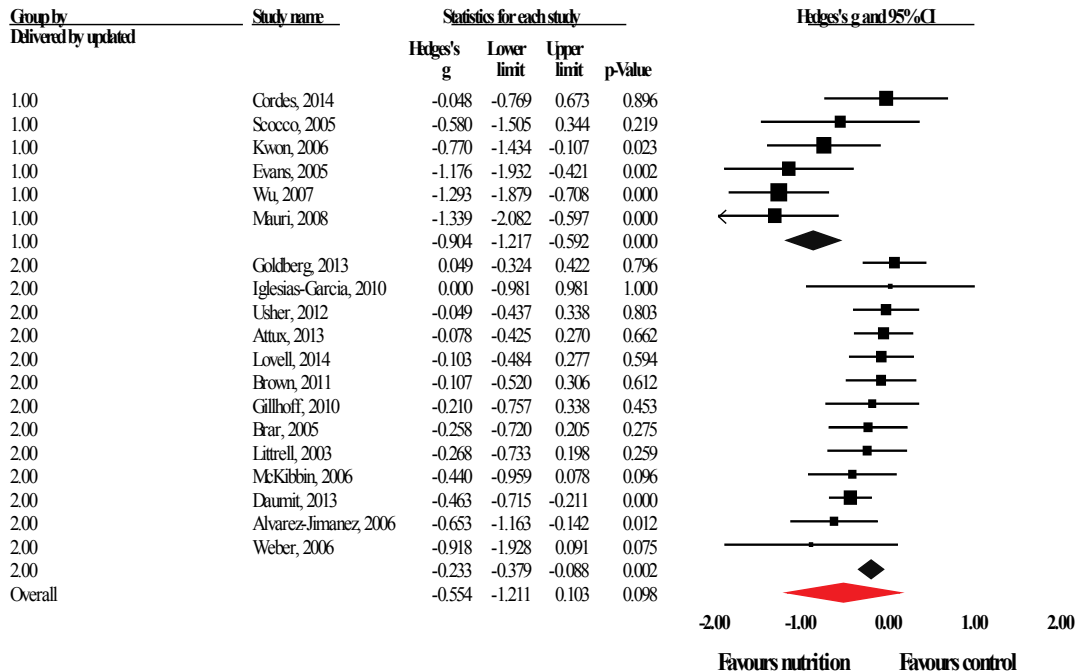
Trial	Concealed allocation	Assessor blinding	Group treatment equality	All participants accounted for	Total
Alvarez-Jimenez et al, 2006	Yes	Yes	Yes	Yes	4
Attux et al, 2013	Yes	Yes	Yes	Yes	4
Brar et al, 2005	No	Yes	No	Yes	2
Brown et al, 2006	Yes	Yes	Yes	Yes	4
Brown et al, 2009	Yes	Yes	Yes	Yes	4
Brown et al, 2011	Yes	No	Yes	No	2
Cordes et al, 2014	Yes	No	Yes	Yes	3
Daumit et al, 2013	Yes	Yes	Yes	Yes	4
Evans et al, 2005	No	No	Yes	No	1
Forsberg et al, 2010	Yes	No	Yes	Yes	3
Gillhoff et al, 2010	No	No	Yes	Yes	2
Goldberg et al, 2013	Yes	No	Yes	No	2
Iglesias-Garcia et al. 2010	Yes	Yes	Yes	Yes	4
Hjorth et al, 2014	No	No	Yes	Yes	2
Jean-Baptise et al, 2007	No	No	Yes	Yes	2
Kwon et al, 2006	No	No	Yes	Yes	2
Littrell et al, 2003	No	No	Yes	Yes	2
Lovell et al, 2014	Yes	Yes	Yes	Yes	4
Mauri et al, 2008	No	No	Yes	Yes	2
McCreadie et al, 2005	No	No	Yes	Yes	2
McKibbin et al, 2006	No	No	Yes	Yes	2
Milano et al, 2007	No	No	Yes	Yes	2
Scocco et al, 2006	No	No	Yes	No	1
Usher et al, 2013	Yes	No	Yes	Yes	3
Weber et al, 2006	No	Yes	Yes	Yes	3
Wu et al, 2007	No	No	Yes	Yes	2
Total / 26	12	9	25	22	

**Fig. DS1a** Subgroup analysis of timing of antipsychotic medication on weight.



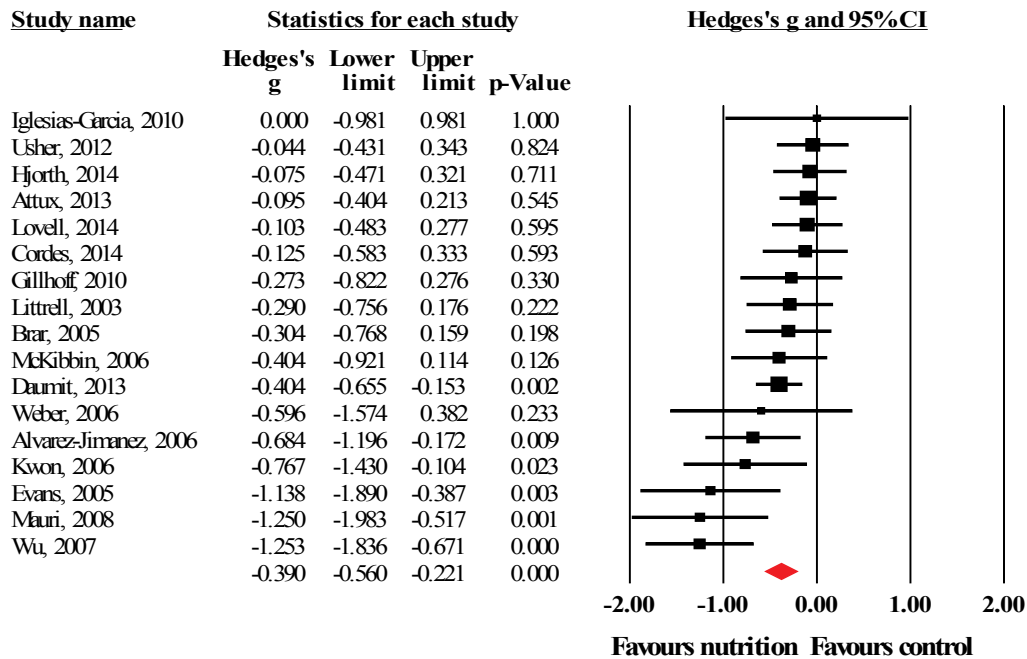
(1 = weight-gain prevention studies, 2 = weight-loss studies)

**Fig. DS1b** Subgroup analysis of those who delivered the intervention on weight.

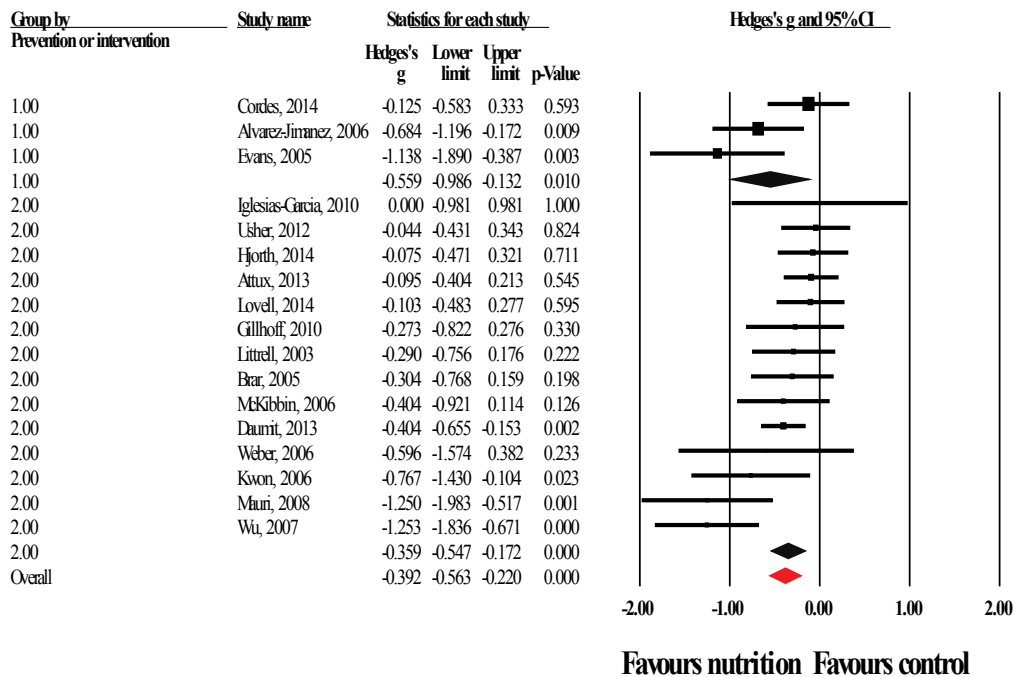


(1 = dietitian-led, 2 = predominantly delivered by other health professionals)

**Fig. DS2a** Main analysis of interventions on BMI.



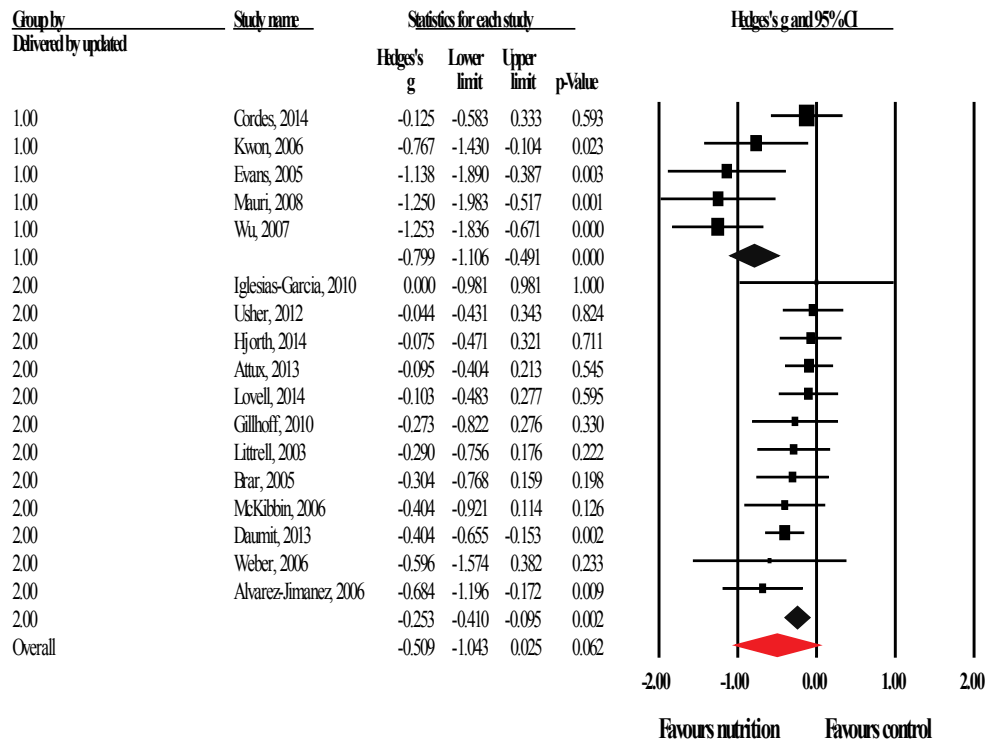
**Fig. DS2b** Subgroup analysis of timing of antipsychotic medication on BMI.



(1 = delivered at initiation of antipsychotic medication, 2 = delivered subsequent to antipsychotic use)

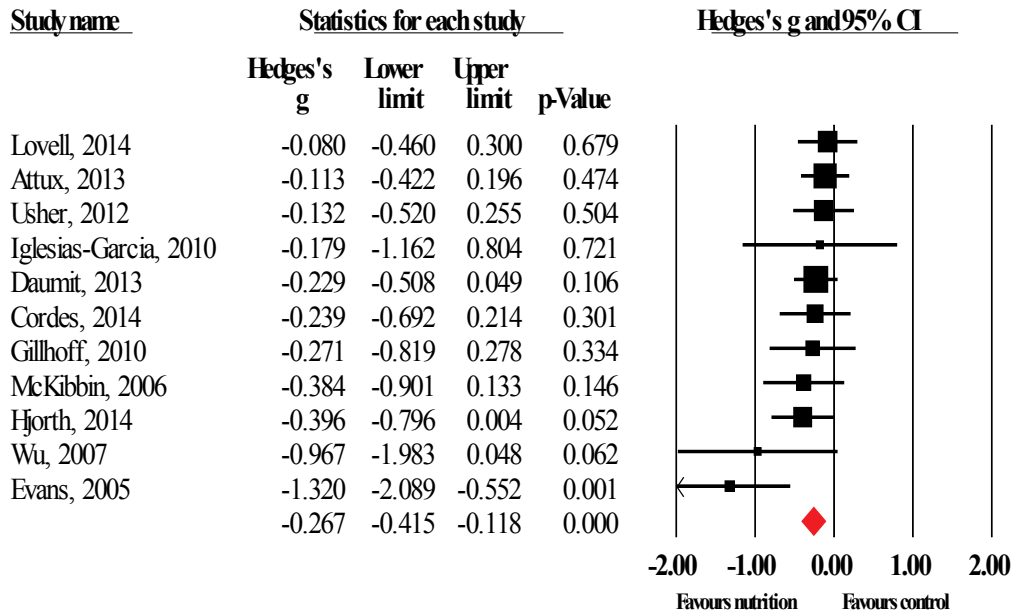


**Fig. DS2c** Subgroup analysis of those who delivered the intervention on BMI.

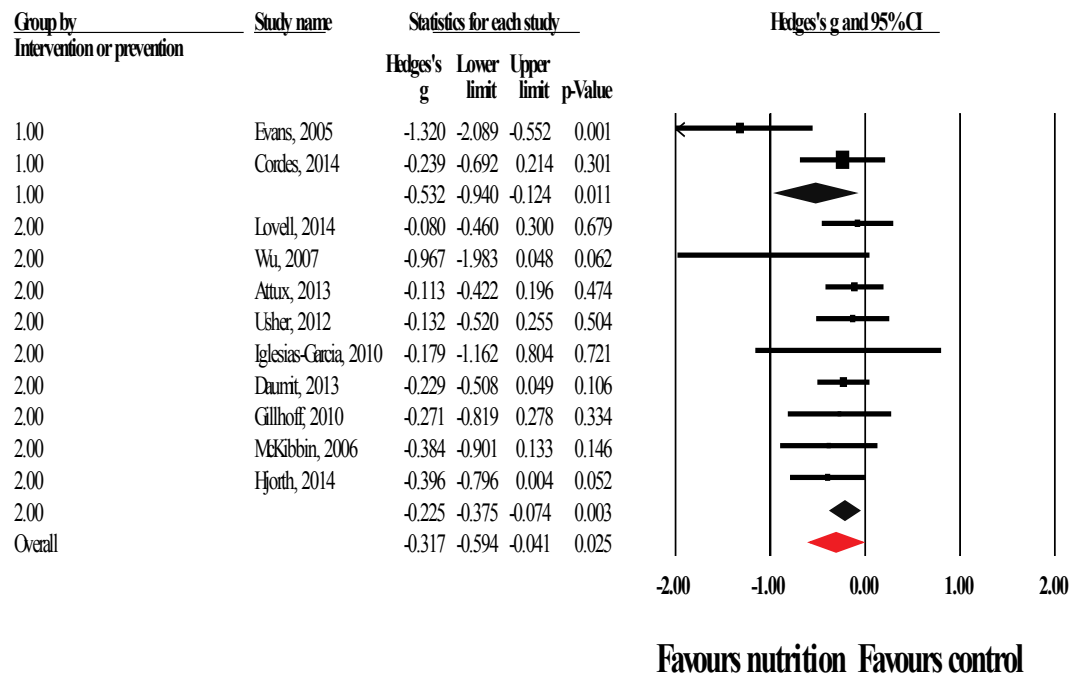


(1 = dietitian, 2 = mixed with dietitian input, 3 = no dietitian input, 4 = not reported)

**Fig. DS3a** Main analysis of interventions on waist circumference.

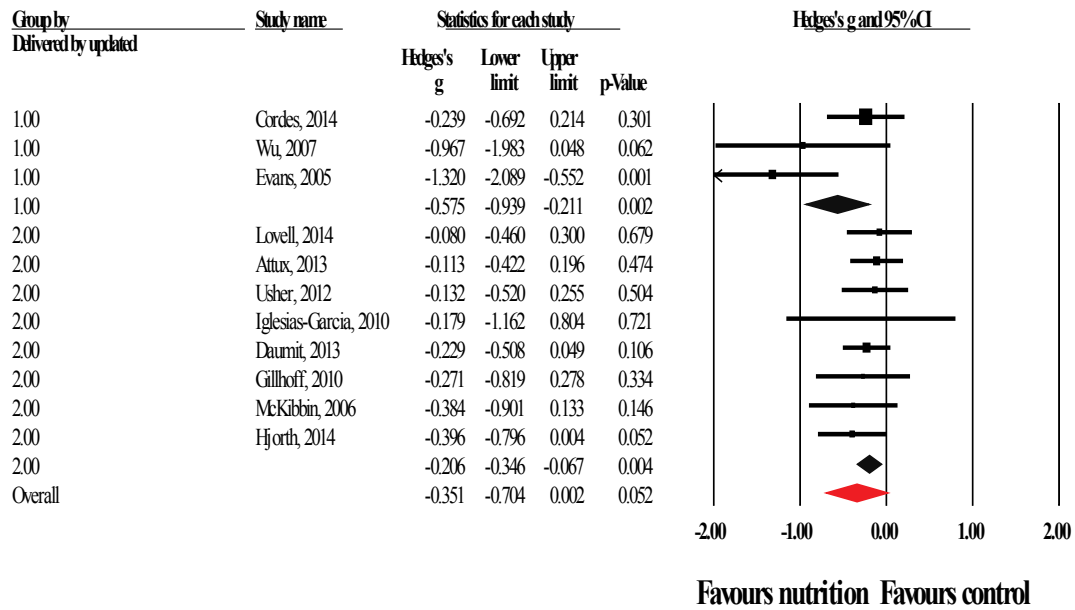


**Fig. DS3b** Subgroup analysis of timing of antipsychotic medication on waist circumference.



(1 = weight-gain prevention studies, 2 = weight-loss studies)

**Fig. DS3c** Subgroup analysis of those who delivered the study on waist circumference.



(1 = dietitian, 2 = mixed with dietitian input, 3 = no dietitian input, 4 = not reported)

**Fig DS4** Main analysis of nutrition interventions on glucose.

